

SEVERE LOCAL STORMS, SEPTEMBER, 1923.

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau.]

Place.	Date.	Time.	Width of path (yards).	Loss of life.	Value of property destroyed.	Character of storm.	Remarks.	Authority.
Cairo, Ill.....	3	3:00-3:17 p. m.	.....	.....	.....	Tornado.....	No damage reported.....	Official, U. S. Weather Bureau.
Atlantic City, N. J.....	4	4:40-7:00 a. m.	.....	.....	.....	Thunderstorm.....	One house struck by lightning. No other damage reported.	Do.
Marinette, Ariz.....	12	.....	.....	.....	.....	Rain and wind.....	Cotton damaged and tents blown away.....	Do.
Miami, Fla.....	13	10:34 a. m.-12:33 p. m.	.....	.....	.....	Thunderstorm.....	Streets flooded and some damage caused by lightning.	Do.
Berkeley, Calif., and vicinity.	16-17	.....	.....	.....	\$10,000,000	High winds.....	Grass and forest fires becoming beyond control entered into the city of Berkeley, causing great damage.	Do.
Oklahoma City, Okla.....	18	6:02-8:40 p. m.	.....	.....	1,000,000	Hail, rain, and wind.	Heavy property damage; many persons injured by hail.	Do.
Harvey and Sedgwick Counties, Kans.	26	6:00 p. m.-12:00 midnight.	.....	.....	210,000	Tornado and rain..	Heavy property damage by wind and floods. Two persons injured.	Do.
Pine Bluff, Wyo. (near Cheyenne, Wyo. (10 miles southeast of).	27	p. m.	.....	.....	8,000	High winds.....	41 empty freight cars blown from track.....	Do.
Albany, N. Y., and vicinity..	27	.....	.....	.....	.....	Wind and rain....	Buildings and fences blown down and much farm machinery damaged.	Do.
Council Bluffs, Iowa (southeast part of).	28	.....	.....	1	.....	Electrical.....	Some livestock killed.....	Do.
	28	7:50 p. m.	.....	5	15,000	Tornado.....	Path several hundred feet wide, not exceeding 3 miles in length; 1 house demolished and a number damaged to varying extent. Trees uprooted. Extensive damage in city by floods.	Do.

STORMS AND WEATHER WARNINGS.

WASHINGTON FORECAST DISTRICT.

By EDWARD H. BOWIE, Supervising Forecaster.

At the beginning of the month the storm reported during the closing days of August as having formed to the eastward of the island of St. Martin, West Indies, was moving northwestward and on the 2d and 3d it produced strong winds and considerable rainfall in the vicinity of Bermuda. Its center apparently passed northward immediately west of Bermuda and thence its course was to the northeast, but being unable to continue to move northeast against the current flowing from an area of high barometric pressure to the northward it changed its course to the westward and finally again to the northward, so that on the 9th the center of the disturbance was south of Sable Island, from which position it moved northward to Newfoundland. Shipping was kept advised by means of radio as to the presence and movement of the disturbance.

During the 14th another disturbance but of extratropical origin formed off the coast between Cape Hatteras and Bermuda and moving northeastward increased greatly in intensity, passing beyond Newfoundland on the 19th. As in the former instance shipping was well advised by radio concerning the movement and intensity of this disturbance.

Following this disturbance the weather off our eastern and southern coasts remained relatively tranquil until the 25th, when reports by cable from the West Indies and radio reports from vessels at sea gave unmistakable indications of the forming of a disturbance northwest of Haiti. Based on the observations received at 8 p. m. of the 25th, the following advice was issued to ports and for broadcast by radio:

Disturbance apparently over Old Bahama Channel will move west-northwest and increase in intensity. Vessels in Bahaman waters and Florida Straits should exercise every precaution.

As forecast, this disturbance advanced west-northwestward and the morning of the 26th its center was near and southeast of Nassau, Bahamas, where the pressure was 29.54 inches, the wind northwest 40 miles, and the weather raining. Continuing to advance slowly, this disturbance moved northwestward during the next 24 hours

and then its course changed to north and northeastward and by 8 a. m. of the 28th its center was in approximately lat. 32° N. and long. 75° W. and moving northeast. During the following 24 hours this disturbance moved eastward and during the night of the 29th its course changed to northeast and on the morning of the 30th its center was near lat. 33° N. and long. 69° W. From this position its course was north-northeastward, and on October 2 its center passed over Newfoundland.

This disturbance was one of great intensity and very low level of the barometer. The lowest pressure reported was approximately 28.50 inches, while several vessels reported winds of hurricane force. Because of its having been detected in the process of formation and its path and intensity having been accurately described in special advices by radio to vessels at sea, minimum amount of damage was done to shipping. Moreover, since the center of the disturbance did not reach the coastal line, no extraordinary wind and weather conditions were recorded at land stations. Nevertheless, and to guard against vessels in port putting out to sea, storm warnings were displayed on the Atlantic coast in connection with this storm at all points at and south of the Virginia Capes, and on the afternoon of the 26th when the disturbance was moving northwestward and its center near Nassau, hurricane warnings were displayed along the coast at and between Savannah, Ga. and Jupiter Inlet, Fla.; but the following morning when observations showed that the disturbance would move northward, these hurricane warnings were lowered and northeast storm warnings substituted.

That the advices issued were greatly appreciated and of direct benefit to shipping off the Atlantic coast, the following extracts from letters received will attest. These letters were addressed to the New York office of the Weather Bureau. They follow.

From the general manager, marine department of the United Fruit Co. (dated October 9, 1923):

I wish to thank you, on behalf of the United Fruit Co., for the service which you rendered us during the recent hurricane. Your various reports and the information submitted by you were greatly appreciated by all concerned. (Signed) Asa F. Davison.

From the manager of the marine department, Standard Oil Co. of New Jersey (dated September 26, 1923):

I wish to thank you for your telephone advice of this noon that a hurricane is central this morning near Nassau, moving northwest, across